

### REMARKS

Claims 1, 2, 5, 7-16, 19 and 21-30 are all the claims pending in the present application.

Claims 1 and 14 have been amended to further clarify that at least a portion of said solubility inhibiting cyclic ketal acid-labile moiety is fluorinated and is substituted with a hydrophobic moiety selected from the group consisting of  $-\text{CF}_3$ ,  $-\text{CHF}_2$ ,  $-\text{CH}_2\text{F}$ ,  $-\text{CCl}_3$ ,  $-\text{CHCl}_2$  and  $-\text{CH}_2\text{Cl}$ , and  $-\text{Si}(\text{CH}_3)_3$ . Support for a fluorinated cyclic ketal acid-labile moiety is provided at pages 26-27 (Examples 2 and 3) and for the substituted hydrophobic moiety at page 14, lines 19-22. No new matter is added.

Claim 10 has been amended to depend from claim 1.

Claims 5, 7, 8, 9, 19, 21, 22 and 23 have been canceled.

Reconsideration of the rejections is respectfully requested based on the following discussion.

The present invention is directed to a resist composition and a method of forming a structure on a substrate including applying a resist composition, in which the resist composition includes an acid-sensitive imaging polymer including a silsesquioxane backbone and a solubility inhibiting cyclic ketal pendant acid-labile moiety, wherein at least a portion of the solubility inhibiting cyclic ketal acid-labile moiety is fluorinated and is substituted with a hydrophobic moiety selected from the group consisting of  $-\text{CF}_3$ ,  $-\text{CHF}_2$ ,  $-\text{CH}_2\text{F}$ ,  $-\text{CCl}_3$ ,  $-\text{CHCl}_2$  and  $-\text{CH}_2\text{Cl}$ , and  $-\text{Si}(\text{CH}_3)_3$ .

Sooriyakumaran does not teach a solubility inhibiting cyclic ketal pendant acid-labile moiety, wherein at least a portion of the solubility inhibiting cyclic ketal acid-labile moiety is fluorinated and is substituted with a hydrophobic moiety selected from the group consisting of  $-\text{CF}_3$ ,  $-\text{CHF}_2$ ,  $-\text{CH}_2\text{F}$ ,  $-\text{CCl}_3$ ,  $-\text{CHCl}_2$  and  $-\text{CH}_2\text{Cl}$ , and  $-\text{Si}(\text{CH}_3)_3$ .

As understood, Bucchignano is directed to an aqueous base soluble polymer or copolymer, but fails to teach or suggest a silsesquioxane backbone. Applicants have provided evidence from the literature (i.e. Schmaljohann et al.) that one skilled in the art would not find it obvious to combine the teachings of Bucchignano with Sooriyakumaran because there was no reasonable expectation of success to combine the teachings of

Sooriyakumaran et al. and Bucchignano et al. without undue experimentation. ("an applicant may rebut the aforementioned presumption by producing sufficient evidence which demonstrates a substantial degree of unpredictability in the pertinent art area." *In re May*, 197 USPQ 601, 611; see also MPEP §2144.09).

The Office Action alleges that Asakawa et al. teaches the equivalence of the trimethylsilyl group and 1-methoxycyclohexyl group as acid-decomposable protecting group. Applicants respectfully disagree with that interpretation, since Asakawa has merely stated that "it is possible to employ" a lengthy list of compounds as an acid-decomposable group, which includes "tetrahydropyranyl ether", "1-methoxycyclohexyl ether" and "trimethylsilyl ether", among many others. Applicants have submitted evidence from the published literature (Ota et al.) that one skilled in the art would not consider trimethylsilyl (TMS) and tetrahydropyranyl (THP) to be equivalent protecting groups in photoresists, thus supporting Applicants evidence of the degree of unpredictability in the art. Applicants have provided objective evidence of what one of ordinary skill in the art would expect. If every item in the list provided by Asakawa is "equivalent" as suggested by the Office Action, then by analogy TMS and THP would also be considered "equivalent", which is contradicted by Ota et al. which teaches that TMS and THP are not equivalent. Thus, although Asakawa et al. suggests that THP, TMS and 1-methoxycyclohexyl may be employed as acid-decomposable groups, Asakawa et al. fails to teach or suggest their equivalence for use as a protecting group in a silsesquioxane polymer backbone.

Asakawa et al. also fails to teach or suggest a solubility inhibiting cyclic ketal acid-labile moiety that is fluorinated and is substituted with a hydrophobic moiety selected from the group consisting of  $\text{—CF}_3$ ,  $\text{—CHF}_2$ ,  $\text{—CH}_2\text{F}$ ,  $\text{—CCl}_3$ ,  $\text{—CHCl}_2$  and  $\text{—CH}_2\text{Cl}$ , and  $\text{—Si}(\text{CH}_3)_3$ .

Thus, Applicants submit that it would not be obvious to combine the teachings and suggestions of Sooriyakumaran, Bucchignano and Asakawa to arrive at the claimed invention, and respectfully request that these rejections be reconsidered and withdrawn.

In view of the foregoing, Applicants submit that claims 1, 2, 10-16 and 24-30, all the claims currently being examined in the application, are patentably distinct from the prior art of record and are in condition for allowance. The Examiner is respectfully

requested to pass the above application to issue at the earliest possible time. Should the Examiner find the application to be other than in condition for allowance, the Examiner is invited to contact the undersigned at the telephone number listed below to discuss any other changes deemed necessary. The Commissioner is authorized to charge any additional fees due or credit overpayments to Deposit Account No. 09-0458.

Applicants' undersigned attorney may be reached by telephone at (845) 894-6919. All correspondence should continue to be directed to the address listed below.

Respectfully submitted,

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